

WHAT IS CLAIMED IS:

1. A disk drive comprising:

a head which reads/writes data from/to a disk medium that rotates;

5           an actuator which includes the head and rotates in a radial direction of the disk medium to move the head to a target point; and

          a controller which controls the actuator to position the head in the target point in accordance with serve data read from the disk medium by the head,  
10           wherein the disk medium includes a number of data tracks having servo areas and data areas and, when the head records data on the data areas in one of outer and inner radiuses of the disk medium, the servo data  
15           whose inclination differs from that of the data is recorded on the servo areas in one of the outer and inner radiuses.

          2. The disk drive according to claim 1, wherein the servo data whose inclination is almost equal to  
20           that of the data recorded on the data areas is recorded on the servo areas in the data tracks included in an intermediate radius of the disk medium.

          3. The disk drive according to claim 1, wherein the servo data whose inclination is 0 degrees and  
25           almost equal to that of the data recorded on the data areas is recorded on the servo areas in the data tracks included in an intermediate radius of the disk

medium, and the servo data whose inclination is smaller than that of the data recorded on the data areas is recorded on the servo areas in the data tracks included in the outer radius.

5           4. The disk drive according to claim 1, wherein the servo data whose inclination is 0 degrees and almost equal to that of the data recorded on the data areas is recorded on the servo areas in the data tracks included in an intermediate radius of the disk  
10 medium, and the servo data whose inclination is smaller than that of the data recorded on the data areas is recorded on the servo areas in the data tracks included in the inner radius.

15           5. The disk drive according to claim 1, wherein the servo data is recorded on the servo areas of the disk medium by a servo track writer having a servo head which sets a skew angle  $\theta 2$  different from a skew angle  $\theta 1$  of the head.

20           6. The disk drive according to claim 1, which is a perpendicular magnetic recording type disk drive having a single pole type head as a write head.

25           7. A servo write method that is applied to  $\sim$  a disk drive including a head which reads/writes data from/to a disk medium that rotates and an actuator which moves the head to a target point, the method comprising:

using a servo head whose skew angle  $\theta 2$  differs

from a skew angle  $\theta_1$  of the head; and

recording servo data to position the head on  
servo areas in each of data tracks of the disk medium  
at an inclination different from that of data recorded  
5 on data areas by the head with the skew angle  $\theta_1$ .

8. The method according to claim 7, wherein the  
servo data whose inclination is 0 degrees and almost  
equal to that of the data recorded on the data areas  
is recorded on the servo areas in an intermediate  
10 radius of the disk medium by the servo head, and the  
servo data whose inclination is smaller than that of  
the data recorded on the data areas is recorded on the  
servo areas in an outer radius of the disk medium by  
the servo head.

15 9. The method according to claim 7, wherein the  
servo data whose inclination is 0 degrees and almost  
equal to that of the data recorded on the data areas  
is recorded on the servo areas in an intermediate  
radius of the disk medium by the servo head, and the  
20 servo data whose inclination is smaller than that of  
the data recorded on the data areas is recorded on the  
servo areas in an inner radius of the disk medium by  
the servo head.

25 10. The method according to claim 7, wherein the  
servo head is provided in a servo track writer that is  
a device exclusively to record the servo data on the  
disk medium, and the servo track writer has a servo

head which sets the skew angle  $\theta 2$  different from the skew angle  $\theta 1$  of the head.

11. The method according to claim 10, wherein the servo track writer uses a servo head having  
5 a relatively small skew angle  $\theta 2$  which differs from the skew angle  $\theta 1$  of the head of the disk drive, writes servo data while moving the servo head from an innermost radius to an intermediate radius of the disk medium and then from the intermediate radius to  
10 an outermost radius thereof, and performs a servo write operation such that an inclination of the servo data corresponding to the skew angle  $\theta 2$  of the servo head becomes smaller than that of user data corresponding to the skew angle  $\theta 1$  of the head.

12. The method according to claim 7, wherein the  
15 disk drive is a perpendicular magnetic recording type disk drive having a single pole type head as a write head.